

ThinkCentre® M90p Tower (5852) - GMP (Windows 7)

Personal Systems Reference (PSREF)

Type-model	Slot x bay	Processor	Base GHz	Max Turbo GHz	Cores	Memory*	SATA disk	2nd Disk Bay	SATA optical	Integrated graphics	Monitor conn	ENERGY STAR 5.0	Intel vPro	Win7 preload	Global (G) GMP (P)	Avail date
5852-A1U	4x4	Core i5-650	3.20	3.46	2	2GB	250GB ²	None	DVD±RW	Intel HD	VGA, DP	ES50	vPro	Pro 32	G P	Feb 10

- **Next Generation Intel platform with latest Intel vPro™ Technology and Intel Active Management Technology**
- **Most manageable ThinkCentre ever: supports Lenovo Secure Managed Client version 2.0***
- **This model is part of the Global Models Plus (GMP) program with limited onsite service³ 3-year limited warranty**
- **This system is Microsoft® Office 2010 Product Key Ready (O10PKR)**

* For more information on Lenovo Secure Managed Client, see lenovo.com/acc

Positioning Processor	Ultimate security, stability, and manageability for the enterprise Intel® Core™ i5 Processor i5-650 with dual-core , Intel 64, Hyper-Threading Technology, Turbo Boost Technology, Virtualization Technology, TXT, integrated 1333MHz dual-channel DDR3 memory controller, and 4MB cache Processor in LGA1156 socket			Tower • Business black color; metal case • 6.9" W X 17.4" D X 16.3" H • 175mm W X 442mm D X 414mm H • 24.2 lb (11.0 kg) in max configuration • Handle on top front • Power button on top handle • Toolless cover removal • Tilted front I/O for easy access • Toolless disk, optical drive removal • Toolless adapter retention optical ② ③ disk ⏏ ⏏ ⏏ Bay ① 5.25", 1.6" high, access, std optical Bay ② 5.25", 1.6" high, access, open Bay ③ 3.5", 1" high, access, open (reader/diskette) Bay ④ 3.5", 1" high, no access, std disk Slot 1: half-length, full-height, PCIe 2.0 x16 (75w max) Slot 2: half-length, full-height, PCIe 2.0 x1 Slot 3: half-length, full-height, 32-bit PCI 2.3 Slot 4: half-length, full-height, 32-bit PCI 2.3		
Implementation	Processor in LGA1156 socket					
Memory	2GB std , 16GB max, UDIMM, PC3-10600 1333MHz DDR3 , four 240-pin DIMM sockets; <i>Non-italics</i> : standard memory in one socket; three sockets available					
Graphics	Intel HD Graphics in processor, HDCP, DirectX® 10, uses main memory (up to 765MB), one analog VGA DB-15 connector, one DisplayPort™ connector, supports dual independent display					
DP dongle	None					
SATA disk	250GB , SATA 3.0Gb/s 7200 rpm					
SATA DVD±RW	Super Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive					
SATA Controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset, RAID 0/1/10, three SATA connectors for disk and optical					
eSATA port	None					
Diskette drive	None					
Media reader	None					
Chipset	Intel Q57 Express Chipset , Platform Controller Hub [PCH] (SATA 3.0Gb/s with RAID 0/1/10 support, PCI, ethernet, and USB), SMSC® SCH5147 Super I/O					
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)					
Rear ports	Six USB 2.0, serial (9-pin), ethernet (RJ-45), monitor (VGA DB-15, DisplayPort)					
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)					
Internal connector	Two USB 2.0 planar conn (1 used; one open for media reader or 2 rear USB ports)					
Audio	High Definition (HD) Audio, Realtek® ALC662 codec					
Speaker	Internal speaker for business audio					
Ethernet	One gigabit ethernet port, Intel 82578DM, Wake on LAN®					
Intel AMT	Intel Active Management Technology 6.0 (Intel AMT 6.0)					
Modem	None					
Security chip	STMicroelectronics ST19NP18 Trusted Platform Module (TPM), TCG 1.2-compliant					
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black, Lenovo® logo					
Mouse	Optical Wheel Mouse (USB connector), black, Lenovo logo					
Power supply	280 watts with variable speed fan, autosensing, 85% PSU					
Preloaded operating system ²⁰		Accessories				
- Genuine Windows® 7 Professional 32		1GB PC3-10600 DDR3 UDIMM	57Y4389			
Preloaded applications ⁵ (only some listed)		2GB PC3-10600 DDR3 UDIMM	57Y4390			
• Rescue and Recovery™		500GB SATA 3.0Gb/s Disk (7200 rpm)	43R1990			
• Password Manager		1TB SATA 3.0Gb/s Disk (7200 rpm)	45J7918			
• ThinkVantage System Update		Super Multi-Burner DL DVD±RW SATA Drive	41N5620			
• ThinkVantage Power Manager		DisplayPort to Single-link DVI-D Cable	45J7915			
• ThinkVantage Toolbox		DisplayPort to VGA Monitor Cable	57Y4393			
• Norton™ Internet Security 2011 (30 days of virus definitions)		NVIDIA® GeForce® 512MB 310 (DP, VGA)	57Y4397			
• Adobe® Reader®		More accessories on O-M90 sheet				
• Adobe Flash® Player		Acc Guide in pdf lenovo.com/accessoriesguide				
• Skype™ for Windows		Other accessories at lenovo.com/accessories				
• Microsoft Office 2010 preloaded; purchase product key to activate						
• Corel® Burn.Now™ (DVD±RW)						
• Corel DVD MovieFactory® (DVD±RW)						
Security • Security chip (see information on left) • One lock to secure both cover and entire system to fixed object: - Padlock loop (in rear for opt padlock) - Security slot (in rear for optional Kensington® MicroSaver® cable) • Power-on password • Hard disk password • Boot sequence control • Boot without keyboard and mouse • Serial port I/O control • Individual USB port disablement						
Environmental Features • EPEAT™ Gold rating • ENERGY STAR® 5.0-compliant • GREENGUARD® certified • RoHS-compliant						
Supports ThinkVantage® technologies						
Limited Warranty ¹ ⇒ 3-year parts and labor ⇒ International Warranty Service⁹ ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Onsite service upgrade options (in eligible locations):⁷ • 4-year LOR 9x5, Next Business Day (ThinkPlus™ part number 41C9194) • 4-year LOR 9x5, 4 hour response (ThinkPlus part number 41C9195) • 4-year LOR 24x7, 4 hour response (ThinkPlus part number 41C9196) ⇒ ThinkPlus services at lenovo.com/thinkplus/warranty ⇒ Post warranty maintenance services available ⇒ 24 hour x 7 day¹⁴ toll-free support during the warranty period¹ via 800-426-7378						

See footnotes for important warranty information
US model announced January 15, 2010

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